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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/559,584

12/02/2005

Jonathan W. Roberts

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23405

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12/11/2008

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EXAMINER

STEELE, JENNIFER A

ART UNIT

PAPER NUMBER

1794

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/559,584	<b>Applicant(s)</b> ROBERTS ET AL.	
	<b>Examiner</b> JENNIFER STEELE	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 14-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17, 19-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 23 and 24 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 23 recites the limitation that “the material comprises a greater mica content for a given material thickness compared to a material comprising a non-twist free glass yarn”. The claim limitation is described in relative terms that renders the claim indefinite and one of ordinary skill in the art would not be able to compare the present invention percentage of mica to another invention's percentage of mica on the basis of the limitation described in claim 23.
2. Claim 25 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 25 recites the limitation that “the material comprises a lower total polymeric resin content compared to a material comprising a non-twist free glass yarn”. The claim limitation is described in relative terms that renders the claim indefinite and one of ordinary skill in the art would not be able to compare the present invention percentage of polymeric material to another invention's percentage of twist-free glass yarn on the basis of the limitation described in claim 25.

***Claim Rejections - 35 USC § 103***

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**3. Claim 1-5, 7-13 and 19-28 rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts (US 4,704,322) in view of Scari et al (US 5,792,713).**

The previous Office Action of 4/25/2008 is maintained and presented below. Claims 19-21 were amended and new rejection presented in response to the amended claims.

*Roberts teaches a mica tape for use in wrapping electrically conductive substrates comprised of a scrim or sheet backing supports of glass cloth with a layer of mica which may be in the form of mica paper, mica flakes, flake paper or splittings (col. 2, lines 26-45). Roberts teaches glass cloth that can be woven or braided cloth that are conventional and known. Roberts differs from the current application and does not teach that the glass filaments are a twist-free glass yarn.*

*Scari teaches a woven glass cloth for reinforcement for paper or resinous articles made of continuous glass filament warp yarns and weft yarns (ABST). Scari teaches a*

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*zero-twist yarn made of continuous glass filaments. Scari teaches the zero twist yarn provides advantages over prior art twisted filaments and allows for miniaturization, improved reinforcement of resinous impregnated glass reinforced articles (col. 7, lines 50-68).*

*It would have been obvious to one of ordinary skill in the art to substitute the zero-twist glass cloth for a convention glass woven cloth motivated to improve the properties of the glass reinforced mica tape.*

*As to claim 2, Roberts teaches a woven glass fabric.*

*As to claim 3, Roberts teaches a mica tape impregnated with a polymer resin.*

*As to claim 4 and 5, Roberts teaches a mica tape wherein the resin is a thermosetting epoxy resin (col. 3, lines 6-9).*

*As to claim 7-8 and 11-12, Roberts teaches the epoxy resin is present in the amount of about 20-50% by weight of the total composite (col. 2, lines 56-60). While Roberts does not teach an amount of 18%, Roberts teaches about 20% and 18% could be considered about 20% and it would have been obvious to try a lesser amount. Roberts teaches that the amount of resin required can vary depending on the type of mica used and the final processing properties desires.*

*As to claim 9 and 10, Roberts teaches an accelerator of phenolic novolac accelerator of an alkoxy titanate (col. 3).*

*As to claim 13, Roberts teaches the product is in the form of a tape.*

*As to claims 19, Roberts teaches a mica tape for use in wrapping electrically conductive substrates comprised of a scrims or sheet backing supports of glass cloth*

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with a layer of mica which may be in the form of mica paper, mica flakes, flake paper or splittings (col. 2, lines 26-45). Roberts teaches glass cloth that can be woven or braided cloth that are conventional and known. Roberts differs from the current application and does not teach that the glass filaments are a twist-free glass yarn. Scari teaches a woven glass cloth for reinforcement for paper or resinous articles made of continuous glass filament warp yarns and weft yarns (ABST). Scari teaches a zero-twist yarn made of continuous glass filaments. Scari teaches the zero twist yarn provides advantages over prior art twisted filaments and allows for miniaturization, improved reinforcement of resinous impregnated glass reinforced articles (col. 7, lines 50-68).

It would have been obvious to one of ordinary skill in the art to substitute the zero-twist glass cloth for a convention glass woven cloth motivated to improve the properties of the glass reinforced mica tape.

As to claim 19, Roberts in view of Scari teaches the materials, structure and process of making a mica tape that is same as the claimed invention and it is presumed that the mica tape has the property of insulating a wire up to an operation temperature of 450-1100°C. When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention the examiner has basis for shifting the burden of proof to applicant as in *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112- 2112.02

As to claim 20, Roberts teaches a mica tape for use in wrapping electrically conductive substrates comprised of a scrims or sheet backing supports of glass cloth

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with a layer of mica. Scari teaches the zero twist yarn provides advantages over prior art twisted filaments and allows for miniaturization, improved reinforcement of resinous impregnated glass reinforced articles (col. 7, lines 50-68). The combination of Roberts and Scari produces an insulating tape as claimed. Roberts teaches a tape useful for insulating electrical wires and it is presumed that as the structure and materials of Roberts and Scari combined meet the claim limitations, the properties of high temperature resistance is inherent to the combination.

As to claim 21, Roberts teaches an electrical tape for wrapping wires and electrical motors which would be equated with a high temperature electrical coil. As the invention is drawn to an electrical insulation material, claim 21 is a statement of intended use and does not distinguish the prior art from the claimed invention.

As to claim 22, Roberts differs from the current application and does not teach a zero twist free yarn. Scari teaches a zero-twist yarn made of continuous glass filaments. Scari teaches the zero twist yarn provides advantages over prior art twisted filaments and allows for miniaturization, improved reinforcement of resinous impregnated glass reinforced articles (col. 7, lines 50-68). It would have been obvious to substitute the zero-twist glass yarn of Scari with the glass yarn of Roberts motivated to produce a glass woven tape.

As to claim 23 and 24, Roberts teaches a mica layer of 2 mils to 10 mils thick and a glass layer of 0.5 to 10 mils thick. As Roberts does not teach the density of the material a relative percentage of mica to glass layer can not be ascertained. Roberts does not teach a mica-to-glass ratio. Roberts teaches mica layers of 2 to about 10 mils

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and glass scrim layer of 0.5 to 10 mils. The applicant's specification example 1 is teaching a 2 mil thick mica layer and a 1.2 mil thick glass layer. Based on the teachings of Robert, one of ordinary skill in the art could have employ a relative range of mica layer to glass layer or reasonable optimized the layers motivated to achieve the desired properties of the insulating tape.

As to claim 25, Roberts teaches a percentage of polymeric material as epoxy resin is present in the amount of about 20-50% by weight of the total composite (col. 2, lines 56-60). Roberts does not disclose the percentage of polymeric material compared to the glass material and therefore a comparison of polymeric material to glass composition can not be ascertained. It would have been obvious to select a percentage of polymer in the range of Roberts and substitute a twist free glass yarn of Scari motivated to produce a tape that has a thinner profile as Scar teaches the twist free yarn has a lower profile.

As to claim 26 and 27, Roberts differs from the current application and does not teach a dissipation factor. As the materials used to produce the tape of Roberts in combination with the zero twist glass yarn of Scari are the same as the claimed invention, it is presumed that the property of the tape would be inherent. When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention the examiner has basis for shifting the burden of proof to applicant as in *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112- 2112.02



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As to claim 28, claim 28 is drawn to a process of producing an electrical insulating tape. Process limitations in claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "In re Thorpe , 227 USPQ 964, 966 (Fed. Cir. 1985).

Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the *prima facie* case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 562 F.2d at 1255, 195 USPQ at 433. See also *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985)

4. **Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts (US 4,704,322) in view of Scari et al (US 5,792,713) in further view of Andres et al (US 4,034,153).** The previous Office Action of 4/25/2008 is maintained and presented below.

*Roberts in view of Scari differs from the current application and does not teach a silicone resin. Andres teaches a electrical cable with a mica insulating tape that is impregnated with a silicone resin as silicone remains flexible after curing (claim 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a silicone resin in the mica tape motivated to improve the properties of flexibility of the tape.*

### ***Response to Arguments***

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5. Applicant's arguments filed 8/29/2008 have been fully considered but they are not persuasive. Applicants amended claims 19-21 and added new claims 22-28.

Claims 23-25 have been rejected as indefinite under 35 USC 112 2<sup>nd</sup> paragraph. The 35 USC 103(a) rejection of Roberts in view of Scari is maintained.

6. Applicant's arguments that the combination of Roberts and Scari would not yield predictable results. Applicant's arguments are not persuasive. Roberts teaches an electrical insulating tape comprised of mica layer, a glass scrim layer and a polymer as claimed by applicant. However Applicant claims the glass layer is produced from a zero twist glass and this substitution of zero twist glass scrim for twisted glass scrim of Roberts produces unexpected results of improved dissipation factor and heat resistance. While mica, glass and polymer have inherent properties that provide heat resistance and dissipation factors, it is presumed that the combination of Roberts and Scari would have these inherent properties. If the combination of Applicant's components and composition is outside the range of Roberts or yields unexpected results, it is the burden of the Applicant to show how the Applicant's invention is different from Roberts and has superior properties to the prior art. A glass scrim would have an inherent property for heat resistance and dissipation factor and therefore the reason why it is known in the art to utilize a glass layer in an electrical insulating tape. However, as a zero-twist glass scrim versus a glass scrim may have different properties and provide an unexpected result, the burden of proof is on the Applicant to show that results would not be predictable.

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7. Applicant argues that the invention of Scari is not drawn to an electrical insulating tape and therefore there would be no motivation to substitute the zero-twist yarn for the glass scrim of Roberts. Scari teaches the zero twist yarn is known in the art and is known to produce a flatter or thinner profile scrim or woven fabric. A tape is a flat profile article and an article where the property of being thin and compact would be desirable. It would have been obvious to one of ordinary skill in the art or obvious to try the substitution of a zero twist yarn motivated to produce a thin tape. With respect to Applicant's arguments that there is no suggestion of motivation to combine, the rationale to modify or combine the prior art does not have to be expressly stated in the prior art; the rationale may be expressly or impliedly contained in the prior art or it may be reasoned from knowledge generally available to one of ordinary skill in the art, established scientific principles, or legal precedent established by prior case law. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

8. Applicant's arguments with respect to the 35 USC 103(a) rejection over Roberts, Scari and Andres is maintained as Applicant's arguments with respect to Roberts and Scari are not persuasive.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER STEELE whose telephone number is (571)272-7115. The examiner can normally be reached on Office Hours Mon-Fri 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. S./  
Jennifer Steele  
Examiner, Art Unit 1794

/Elizabeth M. Cole/  
Primary Examiner, Art Unit 1794

12/8/2008